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Interconnection Process Impacts on Project Schedule

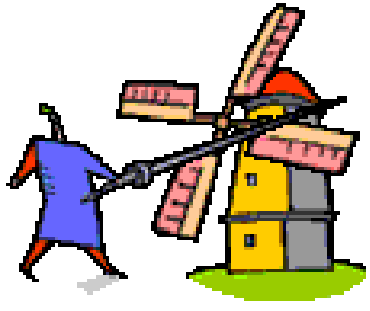
Windiana Conference

June 17, 2008

Topics

- Role of the Transmission Provider
- Impacts on costs
- Impacts on schedule

Desired Outcome



Undesired Outcome

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Who is the Transmission Provider?

- In Indiana, your Transmission Provider is either the Midwest ISO or PJM
- Connections to a transmission level voltage require the developer to work with their Transmission Provider
  - Federal Energy Regulatory Commission approved process
  - Deviations from that process are not allowed
- Connections to a distribution level voltage require the developer to work with their local utility
  - When in doubt, call your local utility

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Current Tariff Requirements

- First in-first out (FIFO) approach as mandated by FERC
- Results of first queued study must be known before second queued study can start
- In areas with lots of projects,
  - Dependencies on early queued projects hard-wired as contingencies in Interconnection Agreements of subsequent projects
  - Uncertainty range too wide for commercial decision making
- Indiana hasn't been too overloaded
  - Interest has picked up over the last 2 months or so
  - Maps and an interactive queue listing are available on our website
- Alterations to the tariff process were filed last month

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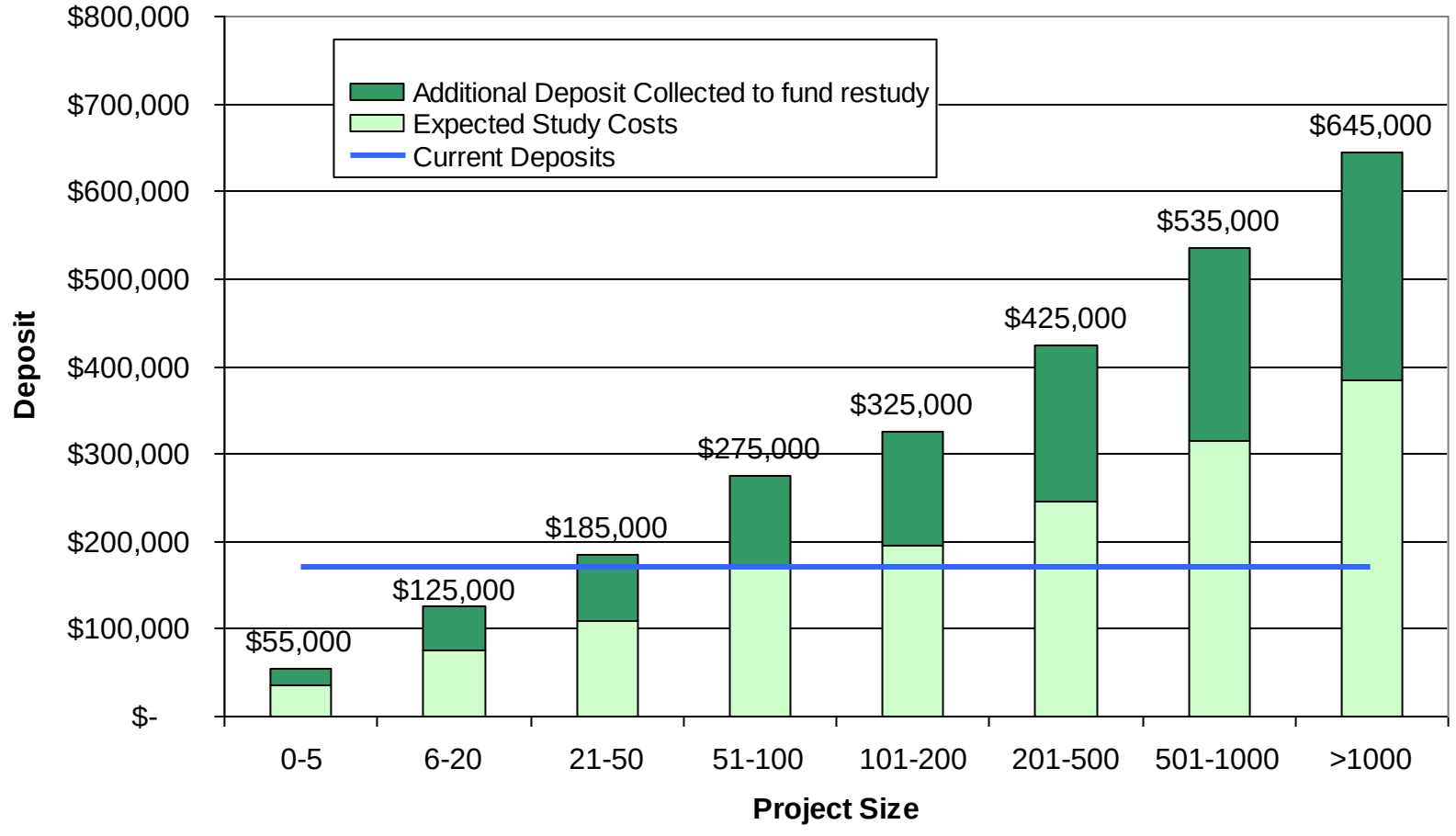
Impacts on Budget—Study Costs



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- These are the costs to get to the Interconnection Agreement
- Dark Green amounts refunded on COD

Impacts on Budget—Milestones

- Site Control
  - At time of application, prove site control or provide a deposit ($10k now, $100k in new process)
  - At time of interconnection agreement, prove site control or post $250k
- Milestones in new process
  - Before Definitive Planning Phase (later slide), one option is to post a security equal to one or two months of transmission service from the plant (about $2000/MW-month)
  - Before the Facilities Study, one option is to post security equal to the planning estimate for the network upgrades

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Impacts on Budget—Infrastructure

- Two types of infrastructure costs
  - Interconnection Facilities: electrical facilities between your generator step-up transformer and the grid
  - Network Upgrades: electrical facilities required to mitigate overloads and other reliability concerns which would impede the operation of your generator (and others around it)
- Cost responsibilities are different for the two infrastructure classes
  - Interconnection facilities are paid for by the developer
  - Network upgrades are initially funded by the developer, and can be refunded up to 50% if certain terms and conditions are met
- Infrastructure costs vary as a function of location, size, queue position, etc
  - Historical assumptions east of Lake Michigan are 10% of generator capital cost required for transmission improvements

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Impacts on Schedule

- Two primary impacts to the schedling of a project
  - First, time it takes to get through the study process
  - Second, time it takes to construct required infrastructure
- Both items should be predicted in your project planning
  - Assuming zero or unrealistic time for either of these can leave you feeling like Don Quixote

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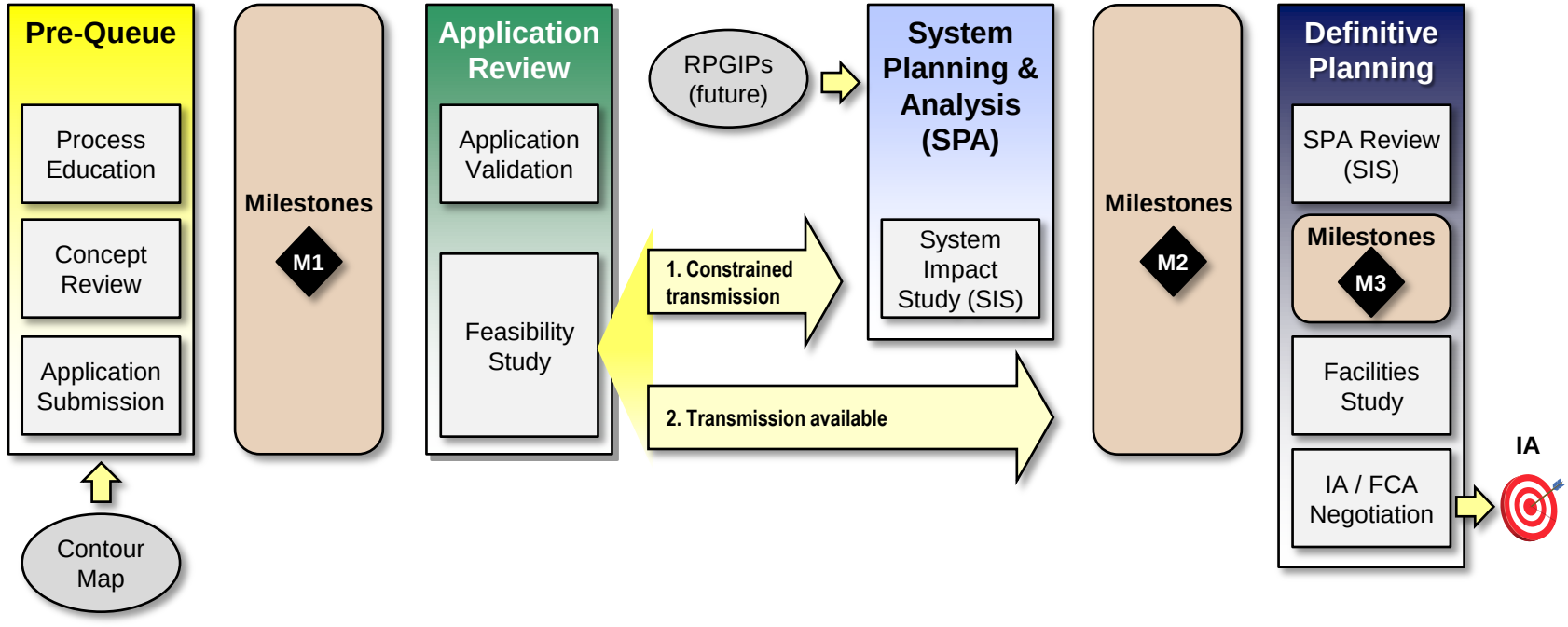
Proposed Generator Interconnection Process



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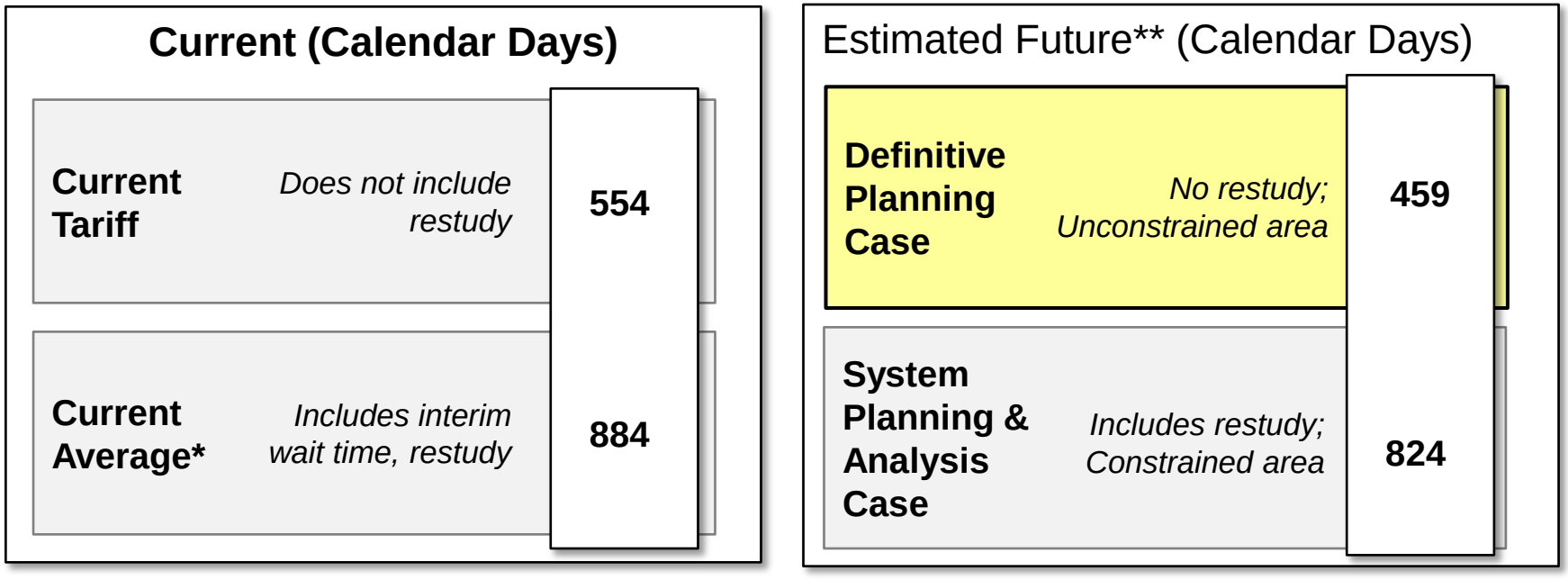
Generator Interconnection Process Timeline Comparison - Overview



- Alternative to current average would be tariff timeline, with multi-year wait for most projects before starting any study work
- Current average reflects primarily pre-2007 data; timelines are increasing as studies become more complex due to transmission constraints

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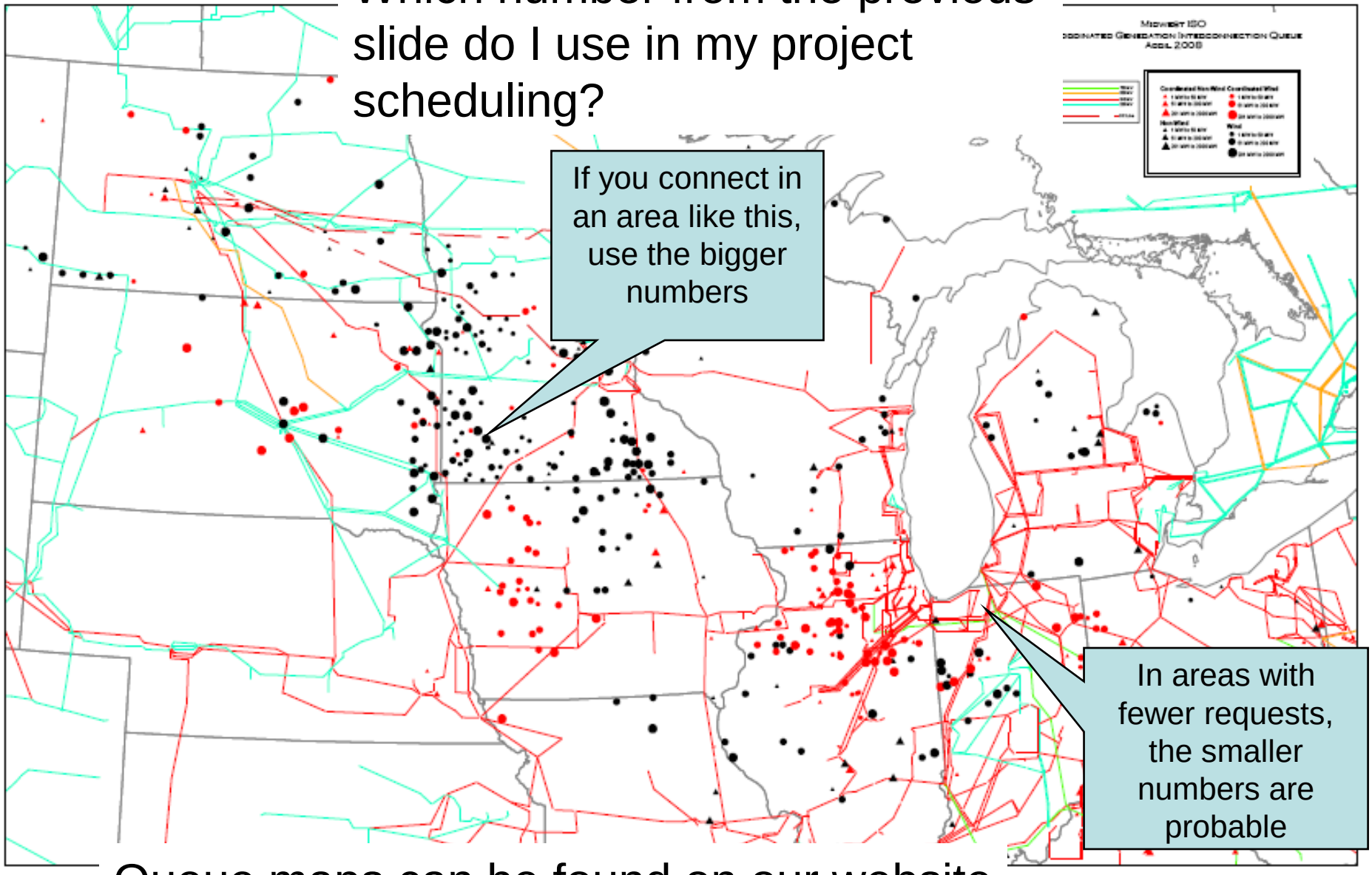
** Current Average excludes studies requesting detailed estimates, which take 90 days additional. Current Average includes interim wait time, transmission system complexity, and restudy. Additional analysis on group studies may alter averages.*

*** All estimates are preliminary and subject to change, based on assumptions and further analysis.*

Schedule Impacts

Which number from the previous slide do I use in my project scheduling?



Queue maps can be found on our website

Recap

- The interconnection queue will add time and budget factors to your project
- Proper planning can keep your project rolling
  - We prefer that you breeze through
  - In some locations it might feel like a tornado

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Contact Info

- Eric Laverty
  - elaverty@midwestiso.org
  - 317-249-5729
- www.midwestiso.org
  - Click on “Planning” at the top
  - Click on “interconnection queue reform” for more information on our filed proposal
  - Click on Generator Interconnection for more information on the queue, our process, etc.

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